



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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April 12, 2011

Ms. Suzanne B. Herron, P.E., CPESC
Director
Environmental Division
Tennessee Department of Transportation
505 Deaderick Street, Suite 900
Nashville, TN 37243

SUBJECT: North Second Street Corridor Improvement Project from I 40 to North Second Street to the Intersection of US 51/SR 3/Whitney Avenue in Memphis, Shelby County, TN

Dear Ms. Herron,

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced Draft Environmental Impact Statement (EIS) in accordance with its responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The U.S. Department of Transportation, Federal Highway Administration and Tennessee Department of Transportation propose to improve the existing North Second Street and extend the street from I-40 in downtown Memphis north crossing over the Wolf River and floodplain, along the existing Whitney Avenue corridor and terminating at the US 51/SR 3 intersection. The proposed project will be approximately 4 miles in length.

The alternatives considered include No Build Alternative and One Build Alternative. The No-Build Alternative makes no improvements to North Second Street other than scheduled maintenance activities.

The proposed Build Alternative, which is a combination of several previously suggested alternatives, involves converting North Second Street and North Third Street from two-way streets into a one-way pair from I-40 to Chelsea Avenue. Both North Second Street and North Third Street will have three traffic lanes from I-40 to Auction Avenue; at Auction Avenue both roadways will transition to two traffic lanes and continue to Chelsea Avenue which is the ending point for the one-way pair. At Chelsea Avenue the southbound North Second Street alignment begins to shift to the west and follows along existing North Second Street to a point just north of Henry Avenue. The new North Second Street alignment will then join the North Third Street alignment to form a four-lane two directional roadway. At the intersection of North Third Street and Chelsea Avenue, the North Third Street alignment extends north and then west on new location and crosses over Bickford Avenue and Henry Avenue before joining North Second Street north of Henry Avenue to form a two directional four-lane roadway. Extending north from Henry Avenue to the Wolf River, the proposed Build Alternative will be two directional four-lane improved roadway that follows the existing North Second Street alignment to the south side of the Wolf River. The next segment of the proposed Build Alternative, extending north at

the Wolf River, involves constructing a new tow-lane bridge paralleling the existing tow lane bridge. The proposed alignment extends north on new location across the Wolf River floodplain and ties into existing Whitney Avenue just east of the International Harvester Building on Whitney Avenue. The final segment of the proposed Build Alternative ties into the existing Whitney Avenue near the old International Harvester Building and extends along Whitney Avenue to the end of the project at the intersection of Whitney Avenue and US 51/SR 3. Portions of the Build Alternative will include multi-use path for pedestrians and bicycles. Various segments of the Build Alternative will be constructed within existing ROW while other segments will require acquiring new ROW. An overall preferred alternative was not identified in the DEIS.

Based on our review, EPA has serious concerns with 1) the elimination of all, but one build alternative, 2) impacts to the Wolf River floodplain and wetlands and 3) impacts to Environmental Justice (EJ) communities. More detailed comments below articulate our concerns.

EPA is concerned that the only Build Alternative would have greater impacts on the Wolf River and Floodplain as compared to the eliminated Alternative C. Although Alternative C would have more relocations, it would have less environmental impacts than the one remaining Build Alternative. Additionally, EPA is concerned that TDOT hasn't adequately explained or justified the elimination of Alternative C. There is only one section within the existing road that has a poor LOS (E-F). A better alternative would be to widen or improve this section of street/road to alleviate congestion without causing environmental harm to the Wolf River.

EPA's primary concerns are with the Build Alternative's impacts to Wolf River floodplain and wetlands. The Build Alternative will impact 1.36 miles of floodplain; however, TDOT has not conducted a hydraulic and hydrological analysis and flood risk assessment. Should the Build Alternative be selected, then the impacts within the flood plain could possibly induce unintended flooding of residences and businesses. Impacts to the floodplain should be considered and evaluated thoroughly while conducting the NEPA analysis. Additionally, the proposed project could encourage development within the Wolf River wetlands and floodplains, which would further harm a sensitive and limited natural resource. EPA requests that TDOT conduct a more thorough analysis of impacts to the Wolf River floodplain and wetlands before issuing the Final EIS.

EPA is also very concerned with the impacts of the Build Alternative to minority and low income EJ communities. The DEIS documents that most minority and low income residences within the Greenville subdivision are opposed to being relocated. Additionally, there is little analysis within the DEIS as to the disposition of EJ communities within the DEIS. Also, any outreach that was conducted happened nearly 9 years ago. EPA recommends TDOT outreach to EJ communities and re-evaluate their EJ analysis to determine if the project poses a disproportional adverse impact to EJ communities.

We rate this document EC-2 (Environmental Concerns-with additional analysis requested). Enclosed is a summary of definitions for EPA ratings. Also enclosed are specific review comments which provide greater detail regarding the environmental concerns, additional information requested, and EPA recommendations to address these concerns.

We appreciate the opportunity to review the proposed action. Please contact Jamie Higgins at (404) 562-9681 if you want to discuss our comments.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Mueller", with a stylized flourish at the end.

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosures

cc: Ann Andrews-Tennessee Department of Transportation

**U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL IMPACT STATEMENT (EIS) RATING SYSTEM CRITERIA**

EPA has developed a set of criteria for rating Draft EISs. The rating system provides a basis upon which EPA makes recommendations to the lead agency for improving the draft.

RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

- **LO (Lack of Objections):** The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.
- **EC (Environmental Concerns):** The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- **EO (Environmental Objections):** The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental objections can include situations:
 1. Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;
 2. Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;
 3. Where there is a violation of an EPA policy declaration;
 4. Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or
 5. Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.
- **EU (Environmentally Unsatisfactory):** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:
 1. The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;
 2. There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or
 3. The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.

RATING THE ADEQUACY OF THE ENVIRONMENTAL IMPACT STATEMENT (EIS)

- **1 (Adequate):** The Draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.
- **2 (Insufficient Information):** The Draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the Draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the Final EIS.
- **3 (Inadequate):** The Draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the Draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the Draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised Draft EIS.

North Second Street Corridor Improvement Project from I 40 to North Second Street to the Intersection of US 51/SR 3/Whitney Avenue in Memphis, Shelby County, TN

U.S. Environmental Protection Agency Comments:

Overall, EPA's primary concerns are with 1) the elimination of all, but one build alternative, 2) impacts to the Wolf River floodplain and wetlands and 3) impacts to EJ communities. More detailed comments below articulate our concerns.

1. Elimination of Alternatives:

a. TDOT has indicated they have eliminated Alternative C (widening of existing road) because it would require displacement of numerous businesses and residents (page 27, section 1.4.1 System Linkage Needs); however, the number of relocations is not clearly discussed within this section. TDOT further states that widening the existing road would not meet the project purpose and need, but the document doesn't explain how it doesn't meet the purpose and need. On page 56, TDOT states, "Alternative C was eliminated because it is outside the North Second Street corridor and does not meet the purpose and need of improving the North Second Street and providing a viable secondary access into downtown Memphis." TDOT states that Alternative C is not in the North Second Street corridor; however, Alternative C is only a few blocks from the identified "North Second Street" corridor. It would appear that Alternative C (improving the existing road) would be the preferred build alternative and should be further considered before totally eliminating from the NEPA analysis. The DEIS lacks adequate analysis and justification as to the elimination of this alternative. Further, the public should be given an opportunity to weigh in on Alternative C before its elimination. EPA requests that TDOT re-consider the elimination of Alternative C. Should TDOT still determine that Alternative C is not viable, then EPA requests that TDOT more adequately discuss the reasons for elimination of this alternative.

b. In the Executive Summary (page vii), TDOT states, "Improving this existing segment of North Second Street was considered. However, it was determined not to be feasible...The issues associated with this segment are discussed in more detail in **Chapter 2** under **Section 2.5 Alternatives Previously Considered but Rejected.**" Upon review of the DEIS, EPA discovered that there was no Section 2.5. As discussed previously in Comment 1, EPA requests that TDOT re-consider elimination of Alternative C and as well as discuss the rationale for elimination more clearly in the FEIS.

c. *Figure 1.7: Design Year MOE* on page 38 pictorially describes the LOS for the No Build and Build alternative. There is only one section within the No Build Alternative that has a poor LOS (E-F). It would seem that simply widening or improving this section of street/road would alleviate congestion without causing environmental harm to the Wolf River. Also, will the proposed I-69 link into this section of North Second Street? If so, was this considered in the traffic analysis? EPA recommends that TDOT further explain rationale as to why widening the poor LOS section of road would not meet the project purpose and better describe the relationship between the proposed I-69 project with this project.

2. Environmental Justice (EJ): EPA disagrees with TDOT's assertion that the project will not have an adverse or disproportionately high impact for minority and low income populations." We cite the reasons for our assertion below:

a. On page 127, paragraph entitled, *Income*, TDOT states, "Therefore, based on social and economic data attained from the 2000 U.S. Census, the project area can be categorized as disadvantaged and underprivileged." On page 147, section 4.5 *EJ*, TDOT states, "Most of the interviewee's in the Greenville Subdivision state that they were opposed to moving." Later in the next paragraph, TDOT states, "The project will not have an adverse or disproportionately high impact for minority and low income populations." TDOT justifies this assertion by stating that only one residence in the Greenville Subdivision would be relocated; however, impacts go beyond just relocations. Residences within the Greenville Subdivision could experience more traffic congestion, adverse health effects from pollution and adverse noise impacts. EPA recommends TDOT re-evaluate their determination that impacts will not be disproportionately adverse to EJ communities. Also, EPA recommends TDOT more thoroughly discuss their EJ analysis within the FEIS.

b. On page 145, 4.4 *Relocation Impacts*, TDOT states, "Due to the multi-family units, it is expected that a majority of the displaced will be tenants. Indications that all the effected households are in the low to medium income range and that most are of minority race." This statement would seem to indicate that this is an EJ community and they will be relocated. Again, the act of relocating disadvantage and minority populations would seem to indicate an adverse action. As previously stated, residents not being relocated may be adversely impacted by increased traffic, pollution and noise.

c. Public Meetings: On page 148, TDOT discusses conducting public meetings, but doesn't state what date the public meetings were conducted. Also, were these public meetings referenced specifically targeted toward EJ communities? As written, it is unclear as to whether the public meetings were general scoping public meetings or specifically targeted toward EJ communities. EPA requests clarification and encourages TDOT more clearly explain this in the FEIS.

d. Door-to-Door Survey: Continued on page 148, TDOT discusses conducting a door to door survey of the Greenville Subdivision. TDOT states that, "Most of the interviewee's in the Greenville Subdivision state that they were opposed to moving." How many people were opposed to the project? EPA requests TDOT clarify the numbers associated with this survey.

e. EPA recommends that TDOT pictorially describe the locations of the EJ communities in relationship to the Build alternative so that the public will better understand the possible impacts to these communities.

e. Overall, EPA is concerned by the possible impacts of this project to EJ communities. EPA also recommends that further outreach and an equitable resolution to relocations and other impacts be vetted thoroughly before the FEIS is released to the public.

3. Wolf River Floodplain and Wetland Impacts:

a. Overall, EPA is concerned by the Build Alternatives possible impacts to the Wolf River floodplain (specifically the 100 year flood plain). Floodplains act as natural buffers during high water events and building in floodplains can alter their natural flood patterns especially in a highly urbanized area like Memphis. During Concurrence Point 3 of the Tennessee Environmental Streamlining Agreement (TESA) review, EPA requested that TDOT conduct a thorough hydraulic and hydrology and flooding risk assessment analysis to determine if the Build alternative could possibly induce flooding of local businesses and residences. However, TDOT has ignored this request. On page 166, *4.8.5.1 Floodplain Impacts*, TDOT states, “Any influence on the flood level resulting from the possible encroachment will be determined by the Hydrology Section of the Tennessee Department of Transportation (TDOT) when plans become available.” As written, it is unclear as to when TDOT will conduct a hydraulic and hydrology analysis. EPA is concerned with delaying the hydraulic and hydrology analysis to after the closure of the NEPA process. Delaying the analysis to after the signing of the Record of Decision will not properly inform the public of potential impacts. EPA is concerned that TDOT will make a final decision without thoroughly considering the impacts to the floodplain habitat and possibly inducing flooding into residences and businesses. EPA recommends that TDOT conduct a comprehensive hydraulic and hydrological analysis as well as a flooding risk assessment and include this analysis within the FEIS.

b. On page 180, *4.8.5 Floodplain*, discusses floodplain impacts; however, the analysis is very brief. Later on page 215, TDOT discusses the cumulative impacts of both the proposed I-69 project and this project. TDOT has also indicated that a hydrology study will be conducted at later time by the TDOT’s hydrology section (See comment 5a). Given that the project is within an existing floodplain, the hydrology study should be completed before selection of the Build alternative. In fact, the hydrology study should assist TDOT in selecting a Build alternative, but all the other build alternatives have been screened out. EPA is concerned about the project's impacts to floodplains and the possibility that the project could act as a dike and possibly increase flooding to the community. EPA requests that TDOT better describe the project's impacts to the floodplain and any possible flooding issues related to the constructing of the floodplain in the direct, indirect and cumulative impacts sections

c. The DEIS has no analysis of indirect and cumulative floodplain impacts. EPA recommends that TDOT conduct a more adequate analysis and discussion of indirect and cumulative impacts to the floodplain.

d. EPA requests that a floodplains impact (by acres) be included in *Table 4.8.2: Ecological Features within the Build Alternative* on page 175.

e. The Build Alternative will impact 7.3 acres of wetlands. EPA is concerned about the impacts to wetland habitat. EPA echoes the Tennessee Water Resource Agencies (TWRA) concerns regarding the project's impacts to the Wolf River and wetlands associated with the Wolf River (TWRA reference letters dated December 5, 2001, January 16, 2002 and dated July

28, 2003). In the July 28, 2003 letter, TWRA discusses TDOT and TWRA reaching an agreement regarding the mitigation of wetlands impacts. The letter states, "There appears then, potential for an economically feasible opportunity for floodplain and wetland protection, environmental enhancement, and wetland mitigation in association with the road project. The Wolf River Conservancy has agreed to hold any easements that might be involved in this project."

It is EPA's understanding that a written agreement was never developed nor endorsed by TWRA and TDOT. EPA shares TWRA's concerns regarding wetland and floodplain impacts. The Wolf River watershed has been greatly impacted by development and farming. A road project could further threaten this already degraded river. EPA recommends that TDOT work with TWRA and the U.S. Army Corps of Engineers (USACE) to develop a written agreement that outlines a plan of action as discussed in the letter. EPA recommends that this plan be endorsed by all applicable stakeholders before the FEIS is released to the public and that these commitments be included within the Environmental Commitments Section of the Executive Summary (i.e. green pages).

4. There is no key in *Figure 2.2; Cross Section Legend*, which makes it difficult to understand what the different colors indicate. What is the purpose of this Figure and what do the different colors indicate? EPA recommends the inclusion of a key in the figure or explanation as to the meaning of the colorations.

5. Air Quality:

a. In section 4.9 TDOT has identified that the North Second Street Corridor Improvement Project is in the 2030 Long Range Transportation Plan (LRTP) and the 2011-2014 TIP for the Shelby County MPO. Please correct this information as the LRTP and TIP are for the Memphis Urban area MPO. Additionally, please provide a reference to where the public can find the LRTP and the TIP documents.

b. In section 4.9 it is mentioned that this project is in the conforming 2011-2014 TIP, what year will this project be constructed and open to traffic?

6. On page 179, section 4.8.4.1 *Water Quality Impacts*, TDOT discusses the Wolf River being listed as a 303(d) listed water body, but doesn't explain what pollutants it is listed for. EPA recommends that TDOT better explain the 303(d) listing and the projects impacts in relationship to this listing and TMDL implementation.

7. On page 182, section 4.9.2 *Mobile Source Air Toxics (MSATs)*, discusses MSATs as related to this project. The assertion of the FHWA in NEPA documents that available tools and information are not adequate for use in NEPA analyses has been a point of disagreement between FHWA and EPA for some time. EPA believes that alternatives being considered under the NEPA process can and should be properly compared using their potential impacts related to Mobile Source Air Toxics as one of the measures for comparison at the project level. EPA believes that the tools are adequate to compare the potential impacts of different alternatives at the project level.

8. On page 183, section 4.9.3 *Climate Change*, TDOT states, "However, the emissions changes due to individual projects are very small compared to global emissions." EPA disagrees with this assertion. The cumulative impacts of individual projects are contributing factors to regional and global emissions. This project may lead to more development and increase of traffic emissions. Also, the cumulative impact of this project combined with other proposed transportation projects will ultimately increase GHG in the Memphis area.

Regarding the climate change analysis, it is broader than direct GHG emissions. There are other potential cumulative effects of concern. For example, the impacts of climate change upon the proposed action. How will climate change affect the transportation facility once built? Increases in flooding due to climate change could possibly effect the project once built. On a cumulative impact level, flooding could worsen due to both the constructing of the project and increase flooding due to climate change. Another impact would be the proposed project's cumulative impact to listed ESA species ability to adapt to climate change impacts to their habitat. EPA recommends TDOT conduct a more thorough analysis of the project's climate change impacts especially relating to cumulative impacts.

9. Noise Impacts: On page 187, *Noise Abatement Evaluation*, TDOT states, "...noise abatement is not feasible for this project."

FHWA noise regulations under 23 CFR 772.11(f) requires the "the views of the impacted residents will be a major consideration in reaching a decision on the reasonableness of abatement measures to be provided." EPA agrees with such public outreach; however, no analysis or discussion regarding the views of the impacted residences or general public is found in the Preliminary EA. Further, 23 CFR 722.13 discusses more than just noise barriers as noise abatement measures that should be considered in the noise abatement analysis. As cited in 772.11(d), "When noise abatement measures are being considered, every reasonable effort shall be made to obtain substantial noise reductions."

Also, 722.13(d) states:

"There may be situations where (1) severe traffic noise impacts exist or are expected, and (2) the abatement measures listed above are physically infeasible or economically unreasonable. In these instances, noise abatement measures other than those listed in 722.13(c) of this chapter may be proposed for Types I and II projects by the highway agency and approved by the Regional Federal Highway Administrator on a case-by-case basis when the conditions of 772.13(a) of this chapter have been met."

If noise walls are not feasible for the build alternative, then consideration should be given to the construction of other noise barriers such as earthen berms, development of vegetative screens as part of highway landscaping to provide at least a visual separation from the project ROW, shifting horizontal and vertical alignments to minimize excessive residential and commercial noise impacts, and sound proofing of any significantly affected public facilities to help mitigate highway related noise impacts. It is also our understanding that the type of highway surfacing material used during construction can substantially reduce noise impacts. As a rule, the noise impacts of the proposed project -- particularly significant resultant and incremental impacts -- should not be left unmitigated. When a Build alternative is Built, every effort should be made to further reduce the noise impacts associated with the proposed project.

EPA recommends that TDOT explore this option and analyze other measures to mitigate the impacts of noise to the residences and the community. Use of multiple measures may also be appropriate to achieve cumulative noise attenuation to the desired level (e.g., combination of appropriate alignment shifts, barriers, earthen berms, pavement types, speed reductions and/or landscape evergreen vegetation, etc.). EPA overall recommends that the evaluation process for noise mitigation be revisited during the development of the Final EIS to be more consistent with FHWA and TDOT noise regulations. Additionally, EPA encourages TDOT to 1) consider all noise practicable abatement measures including multiple measures for cumulative attenuation and 2) solicit feedback from impacted residences and the public regarding noise impacts. EPA recommends that the FEIS reflect the views of the public and impacted residences as well as fully discussing all noise abatement measures considered and implemented.

10. The Indirect and Cumulative Impacts section (starting on page 213) is insufficient because it lacks an analysis of several categories of impacts such as historic/cultural/archeological impacts, EJ and socio-economic impacts, air impacts, noise impacts, and etc. There is also no description of other proposed projects (i.e. proposed I-69 project) listed within 5.2.6 *Transportation Impacts to the Community* cumulative impact analysis. Also, EPA recommends that TDOT expand its EJ analysis to include indirect and cumulative impact analysis.

11. Public comments have been omitted from the document. EPA would like to review these comments to better understand the views of the public. EPA requests that public comments and TDOT's response to those comments be released before the release of the FEIS.

12. Public Participation: On page 208, *6.0 Public Input and Agency Coordination*, TDOT discusses the public meetings conducted in 2002, but does not discuss any future public meetings. Does TDOT plan to conduct a public meeting for the DEIS? EPA encourages TDOT to conduct a public meeting on the DEIS especially since the scoping public meeting was held over 9 years ago.